HRUC-E

Manual

Comair is a VENTILAIR GROUP Brand

VENTILAIR GROUP reserves the right to make changes without further notice to any products herein.
On our websites www.comair.nl and www.ventilairgroup.com you can find the newest version of our manuals.

VENTILAIR GROUP NETHERLANDS Kerver 16 - 5521 DB Eersel | nl@ventilairgroup.com | +31 (0)497 36 00 31
VENTILAIR GROUP BELGIUM Pieter Verhaeghestraat 8 - 8520 Kuurne | be@ventilairgroup.com | +32 (0)56 36 21 20
VENTILAIR GROUP FRANCE 8, Rue de Maréchal de Lattre de Tassigny 59000 Lille | fr@ventilairgroup.com | +33 (0)3 20 12 06 49
VENTILAIR GROUP GERMANY Zimmerbachstrasse 33 74676 Niedernhall | de@ventilairgroup.com | +49 (0) 79 40 9 83 70 0

All rights reserved.
The information and instructions in this manual are subject to print errors and misspelling. No rights can be derived from the information contained herein.

Version 2.0
Ventilair Group Nederland B.V.

Index

I Glossary 2

II Introduction 4
2.1 Why should you ventilate? 4
2.2 System D with heat recovery 4
2.3 Operation of the HRUC-E 4
2.4 Benefits of the HRUC-E 4
2.5 Safety 4
2.6 Warranty 5
2.7 Liability 5
2.8 Deliveries 5

III User's manual 6
3.1 Controlling the HRUC-E 6
3.1.1 Intelligent 3-position switch with LED-indicator 6
3.1.2 Luxury digital operating panel 7
3.1.3 Extra control option: bathroom switch 9
3.2 Maintenance by user 9
3.3 Recycling of the HRUC-E 10

IV Installers manual 11
4.1 Installation of the HRUC-E 11
4.1.1 Mounting of the HRUC-E 11
4.1.2 Drain connection 11
4.1.3 Installation and connection operating panel 12
4.1.4 Connection of the air ducts 12
4.1.5 Mounting a ground heat exchanger 13
4.1.6 Explanation preheater 13
4.2 Settings of the HRUC-E 13
4.2.1 General information 13
4.2.2 Intelligent 3-position switch with LED-indicator 13
4.2.3 Digital deluxe operating panel 13
4.3 Maintenance by installer 15
4.3.1 Check the fins of the heat exchanger 15
4.3.2 Cleaning the heat exchanger core 15
4.3.3 Cleaning the fans 15
4.3.4 Cleaning the drain 16
4.3.5 Check the speed controller and bypass system 16
4.3.6 Check (and if necessary repair) the electri- cal wiring. 16

V Errors 17
5.1 Errors intelligent 3-position switch with LED indicator 17
5.2 Errors deluxe digital operating panel 17
5.3 Solution schemes for errors 18
5.3.1 General error 18
5.3.2 Fan error 19
5.3.3 Sensor error 20
5.3.4 Error cabling/ data transfer 21

VI Specifications HRUC-E 22
6.1 Technical specifications 22
6.2 Air flows 24
6.3 Dimensions 26
6.4 List of components 26
6.5 Wiring diagram HRUC-E 27

Annex I MAINTENANCE BY USER 28
Annex II OVERVIEW MAINTENANCE 30

I Glossary

To use the HRUC-E correctly, it is important to know the following definitions first.

3-position switch
The 3-position switch is one of the control possibilities of the unit. It makes it possible to switch easily between the three ventilation modes. See section 3.1.1 for a detailed description.

Ground heat exchanger
A ground heat exchanger is an additional option to preheat the supply air in the winter and to cool it in the summer, by using the constant temperature of the earth. Ducts are placed in the ground, in which a fluid is circulating. This fluid adapts to the temperature of the ground and is then guided through a heat exchanger in which the supply air is heated or cooled.

Balanced ventilation
There is balanced ventilation when there is as much air extracted from a building as there is supplied.

Bypass
The bypass is used during the summer period, to extract the heat of a building in the evening or at night. One of the air flows is not guided over the heat exchanger, so the extracted heat is not exchanged to the supply air flow.

Filter
For an optimum quality of indoor air, the outside air is guided through filters before it enters the building. In addition, the extracted air is also filtered before it enters the heat exchanger. This keeps the channels of the heat exchanger cleaner and therefore more efficient.

Living spaces
Rooms in the house where people are present during a long time, are seen as living spaces. Think of the living room, bedroom and study room.

Deluxe digital operating panel
The digital deluxe operating panel is a more sophisticated possibility to control the HRUC-E. It includes a digital display and has several additional settings compared to the 3-position switch, including a clock program that switches the unit in the mode you want at preset times, so you can adjust the ventilation automatically to your needs. In section 3.1.2 you will find more information about this operating panel.

Wet areas
Areas where a lot of humidity or smell can occur are known as wet areas. Think of the kitchen, bathroom and toilet.

System D
System D stands for balanced ventilation system with mechanical supply of fresh air and mechanical extraction of contaminated air (by fans). The amount of supplied and extracted air is adjusted by the valves.

That is why it is important to keep the same settings of the valves and to keep the valves at the same setting.

It is also important that air can circulate well in the house, so make sure that openings under doors are not sealed or reduced.

Counter flow heat exchanger
The heat exchanger is the part of the HRUC-E where the heat is exchanged between the supply and extracted air. It consists of aluminum plates that are executed alternately flat and corrugated. Along these plates supply and extracted air flows without directly coming into contact with each other. It is known as counter flow because the supply and extracted air flow in opposite directions, for optimal heat exchange.

Holiday mode
The lowest ventilation mode of the unit. This mode is intended for times that the dwelling is not used for a long period. Activating this mode while the property is still used on a daily bases can lead to health problems and fungal growth.

Ventilation mode 1
This low mode is recommended for overnight and short absences. The air flows of this mode, at factory settings, are shown in section 6.2.

Ventilation mode 2
This is the recommended mode during normal use of the dwelling. The air flows, at factory settings, of this mode are shown in section 6.2.

Ventilation mode 3
The highest mode of the unit. This mode is recommended for intensive use of the house, think of cooking, showering, many visitors or people smoking. The air flows, at factory settings, of this mode are shown in section 6.2.

Preheater
Optionally, a preheater can be applied to the HRUC-E. This ensures that the heat exchanger of the HRUC-E is protected from frost, even in extreme winter conditions. The outside air is preheated electrically before it enters the heat exchanger.

Moisture protection
The unit can be controlled in any mode by a CO_2-sensor or a bathroom switch. This control is also known as a moisture protection.

Frost protection
To prevent the heat exchanger from freezing at temperatures below 0°C, there is a frost protection. This protection will initially create an imbalance in the ventilation flows to keep the heat exchanger free from frost. If this does not help, the supply fan will be turned off briefly.

Heat recovery (HR)
The heat exchanger will extract the heat of the exhaust air. This heat is then transferred to the supply air. In this way, heat is recovered that normally should be blown out of the house.

II Introduction

Read this manual carefully before installing and/or using the unit.
This guide gives you step by step guidelines for proper and safe installation, operation and maintenance of the HRUC-E. Installation must be performed by a qualified installer. Incorrect or incomplete installation may cause the system not working properly, which may affect air quality in the home. The installation must be connected according to local installation instructions.

2.1 Why should you ventilate?

Older homes are often poorly insulated and have many cracks and crevices. This causes uncontrolled ventilation, which has cold draft as consequence. To combat this, you often turn up the heater, creating unnecessary energy costs. By placing a good ventilation system with heat recovery in your house, you will have to heat your home significantly less and you save energy and money. Good ventilation is therefore absolutely necessary, because our homes are increasingly insulated and made airtight. If you do not ventilate adequately in such an airtight house, problem with moisture and even mold will occur. These problems do not arise from too much insulation but rather from insufficient ventilation.

A lot of humidity in a house is also created because people breathe and perspire, cook, wash and shower. Besides that, CO_2 is liberated when we cook or heat water on gas. Poor ventilation is dangerous and unhealthy. To counter CO_2 poisoning, mold and dust mites and to create a helthy environment, you must ventilate adequately.

2.2 System D with heat recovery

D system with heat recovery (HR) stands for balanced ventilation through mechanical supply of fresh air and mechanical removal of contaminated air (by fans). The exhaust air passes through a heat exchanger and there it heats the fresh air. The fresh, heated, air is then blown into the house. In the summer it is possible to bypass the heat exchanger at night, so that fresh air can be supplied without being heated by the exhaust air (bypass). If the house is cooler than outside, the heat is kept out by the heat exchanger. The main advantage of this mechanical ventilation system is that the energy from the exhaust air is used to heat or cool fresh air. This represents substantial energy and cost savings compared to natural ventilation.

2.3 Operation of the HRUC-E

The heat recovery unit HRUC-E is a mean for the Ventilair Group to contribute to a better living environment.
The unit works as follows:

1. Polluted air is discharged from wet areas. The heat energy is extracted from the air before it is blown outside.
2. Fresh outside air is drawn through the unit and through the heat exchanger.
3. The extracted energy is transferred to the fresh air in the heat exchanger.
4. The fresh air is then distributed to the living places of the home.
5. In summer it may be desirable to remove heat from the house. The bypass is automatically activated during cool summer evenings and nights. The cool air is not heated in the heat exchanger, but immediately enters the house.

2.4 Benefits of the HRUC-E

System D is the standard principle of a heat recovery unit. However, the HRUC-E are unique in their kind with their top and bottom connections to the home side. And thanks to the removable cover on both left and right side, the units can be mounted on both sides. This not only results in a simplified system, but also in reduction of needed materials and reduced air flow resistance.

2.5 Safety

Always follow safety and maintenance requirements, notes and warnings in this manual. Failure to do so may cause personal injury or damage to the HRUC-E. So keep this manual, during the lifetime of the heat recovery unit and always unplug it before any maintenance or service is committed to the unit!

- Installing, operating and effectuating maintenance of the HRUC-E must always be done by a certified installer, unless indicated otherwise in this manual.
- During installation the local and general applicable building, safety and installation instructions of the municipality, utilities and other agencies must be abided.
- There should not be made any modifications to the HRUC-E unit.
- We recommend you to close a service contract, so you are assured of a regular check-up. Contact your dealer for a list of certified installers.

2.6 Warranty

Ventilair Group provides a guarantee of 2 years after installation to a maximum of 30 months after production date of the HRUC-E. This warranty applies only to material and/or construction defects. If there is any defect within the warranty period, this must be reported to the installer of the unit.

The warranty on the unit expires if:

1. The warranty has expired.
2. The installation, use and/or maintenance does not meet the requirements listed in this guide.
3. Major maintenance on the unit was committed by an unauthorized maintenance technician.
4. There are signs of abuse or modifications on the device.
5. Changes to the system have been made after completion of the installation.

2.7 Liability

The HRUC-E is designed to operate in a balanced ventilation system. The unit has to be placed in a dry, frost-free area. Any other use is unauthorized and is considered as "improper use". For damage or injury resulting from this improper use of the HRUC-E, Ventilair Group Nederland can not be held responsible.

In addition, Ventilair Group is not liable for damage or injury resulting from failure to follow safety, operating and maintenance instructions as specified in the installation manual.

2.8 Deliveries

All deliveries are subject to the general conditions of METAALUNIE. A free copy will be sent to you when requested.

III User's manual

This section of the manual provides the information to operate the HRUC-E correctly, what to do with an error and how to effectuate maintenance.

NOTE: Always remove the plug from the wall socket before servicing the unit!

3.1 Controlling the HRUC-E

You always have to use a control panel for the HRUC-E. Without this, the unit can not function!

The HRUC-E can be operated in two ways, namely:

- Intelligent 3-position switch with LED indicator: This allows you to manually select the ventilation modes and see when maintenance or service of the unit is required.
- Digital deluxe control panel: This allows you to automatically or manually set a clock program to select the fan speed. You also have a display that shows the status of the unit explained with text.

Please find here below the explanations of the possibilities.

3.1.1 Intelligent 3-position switch with LED-indicator

The intelligent 3-position switch of the HRUC-E looks like shown below.

Explanation of symbols:

Mode 3 <u>High ventilation mode</u>:

This mode is recommended if there is a lot of contaminated or humid air. For example when you are cooking, showering, when there are many visitors or a when people are smoking.

Mode 2 <u>Middle ventilation mode:</u>

This is the recommended mode of the unit during normal use of the house.

Mode 1 <u>Lower ventilation mode:</u>

This mode is recommended at night and when nobody is present in the house.

The light behind the icon indicates which mode is activated. With the arrows "up" and "down" the mode can be changed manually.

It is possible to control the speed of the fan modes. Contact your installer if you want to change the speed.

The orange light behind this icon starts blinking when you turn even lower than the lower ventilation mode. The unit than runs at its minimum. This mode can be used if you leave for a long period, for example during holidays. When the light is continuously lit the unit is completely off.
If you want ventilation on-demand, for example using a CO_2-sensor, you can put the unit in this position. The unit will automatically increase the fan setting when the CO_2 concentration increases. This requires an additional CO_2-sensor.

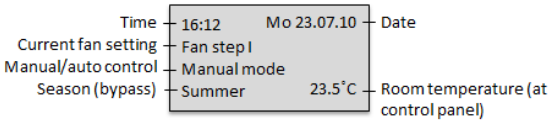
If the red light next to the exclamation mark is lit continuously, the filters should be replaced. See the schedule in Section 3.2. If the light is blinking, an error has occurred. For more information about the error, see chapter 5.

3.1.2 Luxury digital operating panel

The Deluxe digital control panel gives you more options to operate the HRUC-E than the 3-position switch. This makes it easier to set the unit to your personal requirements. When you start the unit, it is not obligated to change the settings if you do not have the need. There is a default clock program installed after fabrication. This clock program turns the unit in mode 1 between 23:00 and 08:30 on weekends and in mode 2 between 8:30 and 23:00. On weekdays, it turns the unit in mode 1 between 22:00 and 7:30 and the remaining time in mode 2. How to change the clock program is explained later in this section. To find out exactly what your installer can personalize for you thanks to this digital operating panel, read section 4.2.3.

<u>The screen:</u>

The deluxe digital operating panel of the HRUC-E looks as shown above. The screen contains the following information:



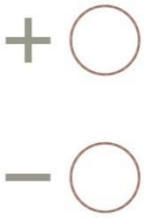
<u>The basic buttons:</u>

There are 6 buttons and 3 LEDs on the conrol panel:

This button allows you to manually select the fan speed. If the automatic mode is enabled ("autom. mode"), you can use this button to manually switch to a higher mode but you can not switch to a lower mode than is set in the clock program. If the automatic mode is active and you switch to a higher position, the unit will run in a higher mode during five minutes. After those five minutes, the unit will follow the mode of the clock program again. This period can be adjusted by the installer.

When pressing this button you switch between manual and automatic mode. The clock program of the unit only works when the automatic mode is enabled. In a menu, you can use this button to move to the next selectable field.

If you press this button, you enter the main menu. In a submenu, you can use this button to return to the previous menu.



You can use these buttons in the main menu to select the submenus. In the submenus you can change the values with these buttons.

Pressing this key in a (sub) menu allows you to confirm your selection.

If no button is pressed for a few seconds, you automatically return to the main screen. Please find the meaning of the LED lights on the digital operating panel below.

If the light is lit under the sun, the bypass is activated.

If the light under the ice crystal illuminates, the frost protection is active. The frost protection is activated when the outdoor temperature drops below zero degrees. The frost protection ensures that the heat exchanger does not freeze by reducing the supply air flow. If your supply fan is not running, always check if this light is on. If that is the case, it does not concern an error.

If the light below the exclamation mark is green, the unit is running. If the light is red, then there is an error or filter message. See chapter five for more information.

Below, the various menus of the deluxe operating panel will be explained step by step.

Main menu:

Press to enter the main menu. The main menu provides access to the submenus listed below:

Submenu	Description
1.Operating mode	Operation of the unit
2.Clock program	Set clock program
3.Data time	Set date and time
4.Filter reset	Resetten filter timer
5.Special function	Settings for installer

Use the buttons and to select a sub-menu. Then use the button to enter the menu.

Submenu 1 - Operating mode

In this menu you can choose the operating mode of the unit. You can choose from the four options described below.

1. Holiday speed

Use this mode when you are away for a longer period. It will only assure minimal ventilation. **Never enable this mode when somebody is in the house.**

2. Winter

This mode is automatically enabled at the transition to winter time. The bypass can not be opened now and the air always goes through the heat exchanger.

3. Summer

This mode is automatically enabled at the transition to summer time. The bypass can now open if the conditions mentioned in section 4.2.3 are met. It is therefore important that you indicate the desired temperature in the summer to your installer. This desired temperature does not affect the operation of the HRUC-E in the winter mode.

4. Summer exitair only

In this mode only the exhaust fan works, so the contaminated air is removed from the home. **You do not get fresh air in your home through the ventilation system and your supply air is not filtered!** Use this mode only if you want to ventilate through enough open windows and/or doors. In this mode there is no heat recovery.

Press to activate a mode, after you have selected it with . The selected mode will blink once. Press to exit the submenu and save your settings.

Submenu 2 - Clock program

The control panel has a seven-day clock program. The clock program is set as follows:

1. Select the menu clock program in the main menu and press .
2. The clock program for Sunday appears, an example is shown below. You can select the various fields in this menu, with .

Clock progr.	SU-day
a. 00:00 – 08:30	LS 1
b. 08.30 – 22:00	LS 2
c. 22:00 – 00:00	LS 1
d. 00:00 – 00:00	LS 1
e. 00.00 – 00:00	LS 1
f. 00:00 – 00:00	LS 1

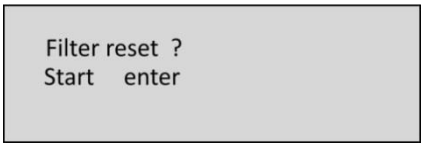
3. If you have selected the field that you want to adjust, use the buttons and to change the value. The program offers six time intervals. For each time interval you can choose a ventilation mode (LS). You can choose from the three modes and the holiday (0) position. Outside the preset time intervals, the unit will turn in position two.
4. As soon as the clock program is set for one day and you press after the last field (LS Interval f), the following line appears at the top of the screen:
   Copy [present] day> [next] day
   If you press , the program of the present day will be copied to the next day. If you want to set another program for the following day, press .
5. Press to exit the menu and save your settings.

Submenu 3 - Data Time

In this menu you can set the current time and date. This is important for proper functioning of the program and switching between summer and winter time. Once you have selected the submenu from the main menu press . You will see the start screen and the hour of the time display flashes. Press to change the value. Then go to the minutes by pressing . Repeat the previous steps for the day of the week and the date. Finish with or cycle trough all fields to save the changes.

Submenu 4 - Filter reset

In this menu you can reset the filter timer after service is effectuated. You can also reset the timer this way if you change the filters before the filter maintenance message appears. Press ↵ when you have selected Filter reset in the main menu. You will see:



If you do not not want to reset the filter time, press 🕮. If you press ↵, you will see a count- down timer from 10 to 00. After this, the control panel automatically switches back to the main menu, the light stays on. Finish the action by leaving the main menu by pressing 🕮. Your filter timer is reset. 12 weeks later, the filter maintenance message will be shown automatically on the control panel again.

Submenu 5 - Special function

In this menu it is possible to personalize settings of the unit. This can only be done by a qualified installer. Read section 4.2.3 if you want to know what your installer can personalize for you.

3.1.3 Extra control option: bathroom switch

The two control panels can be extended with a bathroom switch. A bathroom switch can be added to turn the HRUC-E temporarily in the highest position to extract moist air quicker.
When this switch is activated, the light behind ventilation mode 3, on the intelligent 3-position switch, will blink. At the deluxe digital operating panel, you will see the text "Ventilation Step III ext" on the screen. This mode can not be cancelled; the duration is determined by the timer (see par. 4.2.3).

3.2 Maintenance by user

Major maintenance of HRUC-E should always be performed by a qualified installer.

We recommend, as shown on page 133 of ISSO Kleintje Ventilation[1] to commit every two years the following the major maintenance on your heat recovery unit:

- Check the fins of the heat exchanger.
- Clean the heat exchanger
- Clean the fans
- Clean the drain
- Check the speed controller and bypass system
- Check (and if necessary repair) the electrical wiring.

In addition, we recommend cleaning the duct system every 6 years.

Maintenance of the HRUC-E by the end user is limited to cleaning and changing filters. See Annex I, for more information.

Replacing the filters

The unit will indicate automatically after twelve weeks that the filters must be replaced. However, the frequency in which the filters need to be cleaned, actually depend on the degree of contamination, so please check this yourself regularly.

After starting the HRUC-E check the filters regularly and if necessary replace or clean them. It is advised to replace your filters every three months. For optimal performance of your unit, it is recommended to clean your filters every two weeks. If you are living in a home that is just build, it is advisable to clean or replace the filters more frequently. This is needed because there is a lot of dust in these houses. If it appears that the contamination is limited, you can increase the interval.

Replacing/cleaning the filters is done as follows:

- **Unplug the HRUC-E before you start!**
- Open the front cover using the two clips at the top.
- Pull the two filters from the unit, as shown below.

[1] Hofman, Ing M.C., & Roijen, Ing. E.J.A., & Vos, F.A., & Weelde, Ir. A.M. Van, & Zieremans, H., & Wagenaar, Ir E.J. (2009). Kleintje Ventilatie – Woningen en woongebouwen. Rotterdam: Stichting ISSO

- Clean the filters with a vacuum cleaner if they do not have to be replaced yet.
- Slide the new/cleaned filter back in the unit. There is no difference between the supply air and exhaust air filter. If an arrow is shown on the filter, it has to point towards the heat exchanger.

- Close the front cover using the two clips at the top.
- Reconnect the HRUC-E.

Reset the filter timer

The filter time can be reset with the 3-position control panel and with the digital deluxe operating panel.

- *3-position control panel:*
  Reset the filter time by pressing the two arrows simultaneously, for over 10 seconds. The red light will go out.
- *Luxe digitaal bedientableau:*
  Press . Go to Filter reset with and press . Press again and wait for 10 seconds. Finally, press to return to the home screen without notice. As long as the last action has not been completed, the red light keeps blinking.

3.3 Recycling of the HRUC-E

If your HRUC-E has come at the end of its lifetime, do not dispose it in your household trash. Consult with your supplier what he can do with the unit. If he can not take the unit back, ask your municipality what you can do. Your municipality has solutions for the recycling of components or environment friendly processing of the materials. The HRUC-E is mainly made of metal and is therefore particularly suitable for recycling.

IV Installers manual

This section of the manual provides the information needed to install, program and maintain the HRUC-E unit correctly. Information about errors and reports can be found in chapter five. **Put your contact details on the back of this manual, after installation.**

Always follow the following requirements at the installation:

- The installation, programming and maintenance of the HRUC-E always has to be done by an authorized maintenance technician, unless it concerns small maintenance what can be done by the user and is indicated in this manual as such.
- During installation, one needs to observe the applicable general and local building, safety and installation regulations of the city, utilities and other agencies.
- There should be no modifications to the HRUC-E.

4.1 Installation of the HRUC-E

There are four types of the HRUC-E. Unique to these models is that they can be used both left and right. It is possible to choose the mounting configuration on site. The standard setup is the recommended setup for maintenance. If you want to switch the configuration follow these steps:

- Remove the four M8 nut caps together with the four rings.
- Remove the four rubber caps from the threads on the other side.
- Exchange the brackets of the side and place back the rings, the cap nuts and the rubber caps.
- Check whether the brackets are attached correctly and whether its positions are correct.
- Remove both covers which are fixed by the clip closures.
- Place both covers back on the unit whilst making sure the lid with the Comair-HRUC-E sticker is on the visible side.

4.1.1 Mounting of the HRUC-E

Always install the HRUC-E on a stone wall, in a frost free area (preferably heated) with a maximum relative humidity of 80%, to avoid condensation on and around the unit. Place the unit as far away from bedrooms as possible, to avoid noise complaints.

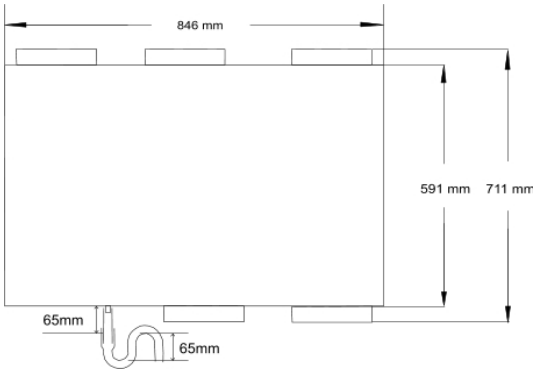
Follow the next steps carefully:

1. Fix the bracket horizontal (level) on the wall with the supplied screws and plugs. Make sure there is enough space to place a siphon, and possible air silencers and air distribution boxes. Also make sure that there is at least 80 cm free space at the front of the unit. This space is needed for maintenance.
2. Hang the unit on the wall bracket using the mounting brackets that are attached to the unit. Thanks to these removable mounting brackets you can choose on the spot if you hang the unit on the right or left side.
3. Level the unit using the adjusting bolts at the bottom. This ensures a proper disposal of the condensation.

.

4.1.2 Drain connection

1. A condensation nozzle is supplied with this unit. This shoud be fixed under the unit for the condensation drain.
2. Slide the duct over the nozzle and create a siphon, so that a siphon with a minimum water seal of 65mm is created, like the image below. Another possibility is an airtight connection of the duct to a siphon.



3. Make sure that the end of the pipe or duct ends at least 65mm below water level.
4. Make sure the water seal within the connection to the sewer is always filled with water to prevent sewer odor in the ventilation system.

4.1.3 Installation and connection operating panel

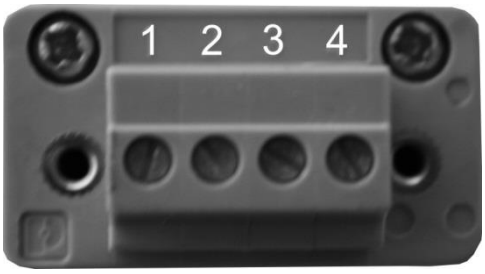
Both control panels can be mounted on a standard mounting box. For this, seperate the the mounting frame from the operating panel, screw the frame into the mounting box, attach the cable as shown below and click the operating panel back on the frame.

Note that the panel must be mounted in an area between 10°C and 30°C with a maximum relative humidity of 80%.

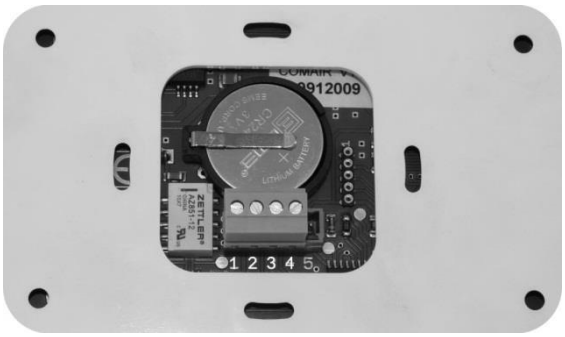
You have to connect the operating panels on the unit by means of a cable 4x0,5mm² with flexible conductors. Ventilair Group Nederland can supply the right (numbered) cable (article reference 0620166). Connect the numbers of the connection on the unit with the corresponding numbers on the operating panel. Ventilair Group Nederland can also supply a protection cap for the cable on the unit (article reference 0540131).

Make sure the wires are not mixed up or short-circuiting, this can cause damage!

Connection on top of the unit



Connection on the back of the digital deluxe operating panel



Connection on the back side of the intelligent 3-position switch

At the 3-position switch connector only number 1 is shown. The three connections next to it are 2, 3 and 4. To the left of the connector is a jumper which has two possibilities: holiday speed (a) and off (b). **We strongly recommend not to change the setting.** Moving the jumper to position b means the unit has no holiday speed, in stead it will be switched off.

4.1.4 Connection of the air ducts

1. In a heat recovery system, always use silencers and pipes of the right diameter to keep the air resistance and noise as low as possible. For advice on the correct pipe diameter, please contact Ventilair Group Nederland.
2. Install the pipes as shown on the sticker on top of the unit, or look in section 6.3. Install the air exhaust pipe draining towards the unit because of possible condensation in the pipe.
3. For the connections to the outside, always use isolated pipes to avoid condensation in the pipes. Place the inlet of fresh air preferably on the shady side of the house; this way you avoid extremely hot air supply in the summer. Note also that the inlet of fresh air is placed sufficiently far from a flue, according to local standards. Also, consider compound boundary rules. And make sure that no rain or animals can enter the pipes.
4. Ventilair Group Nederland recommends to use a straight pipe of at least 40 cm, on the side of the supply air, before using a bend. This way, the supply fan performs optimally.
5. For the home side Ventilair Group Nederland recommends you to apply rigid

silencers (acoustically insulated flexible ducts are not recommended).

6. You can connect pipes both on the top and/or bottom of the HRUC-E. If you want to use the connections on the bottom, you can remove the spouts on top and the lids on the bottom, by turning them counterclockwise. Then you exchange the spouts and the lids and fix them on the unit by turning clockwise. If you want to use both top and bottom connections for the same air flow, you can order extra spouts at Ventilair Group Nederland (article reference 1440071). In this case, it is necessary to place a control valve to set the air flow rates per floor and room.
7. Preferably use pipes that retain their shape to avoid sagging. When a pipe sags, moisture can build up, which can cause damage. Moreover, the airflow can no longer be guaranteed.

4.1.5 Mounting a ground heat exchanger

The addition of a ground heat exchanger in your system is optional. If you choose to place a ground heat exchanger, the preheater is no longer needed. The ground heat exchanger is not electrically connected to the HRUC-E. It is wise to adjust the flow control in terms of percentage, after installing a ground heat exchanger. This is necessary to overcome the additional resistance of the ground heat exchanger. Clarifications on adjusting the flow control can be found in section 4.2.3.

When a ground heat exchanger is applied, it is not recommended to engage the mode 'Summer exitair only'. The ground heat exchanger has the ability to cool the incoming air in the summer.

Ventilair Group Nederland provides a ground heat exchanger under the name Aquacom (Article reference 1230601). The Aquacom is designed to perform optimally in combination with the HRUC-E.

4.1.6 Explanation preheater

A preheater is added to some units, for frost protection, in addition to the standard frost protection that works with imbalance.

If one chooses a preheater, and a difference between supply and exhaust air of more than 4°C occurs when the outdoor temperature is below 0°C, the preheater turns on for 30 minutes. After 30 minutes there is a check whether the difference has narrowed. If this is not the case, the process is restarted. The preheater is installed at the factory. Installation is not possible after delivery of the HRUC-E.

4.2 Settings of the HRUC-E

Once the unit is mounted and the selected operating panel is connected, the HRUC-E can be started. Check again that all air pipes and electrical connections are connected properly. Then insert the plug into the socket. The unit will start in a few seconds.

4.2.1 General information

The control of the HRUC-E consists of an integrated control board and a operating panel. As operating panel you can choose between digital deluxe operating panel or the 3-position switch. Any error messages are displayed on the operating panel. Both panels are plug&play: after a brief self-test, they can control the unit.

4.2.2 Intelligent 3-position switch with LED-indicator

The 3-position switch is used to control the ventilation system. It has the following features:

1. Manual activation of the modes 1 to 3
2. Reset of the filter time (see Section 3.2)

If it is necessary to adapt the air volume per position during the setting of the system, or if the bypass temperature has to be changed, you can temporary use a digital deluxe operating panel. If this is not necessary, the 3-position switch can be connected immediately and the unit can be used.

4.2.3 Digital deluxe operating panel

The Deluxe digital operating panel provides, in addition to the features of the 3-position switch, the following:

3. Clock program with six switching points per day for each day of the week.
4. Intelligent control bypass.
5. Temperature display in the room where the operating panel is mounted.
6. Adjustment of the ventilation modes.

In the next section of the manual, there is a clarification of the submenu five 'Special function' from the main menu. For the first four submenus, see Section 3.1.2. Select the submenu from the main menu with and press . The fifth submenu is only visible when you pass submenu 4: Filter reset.

Submenu 5 - Special function

This menu is only intended for qualified installers. This menu requires a code. Contact your dealer to obtain this code. Use + to change a number. Use ⏲ to skip to the next number. In the menu 'Special function', you have the following choices:

Submenu	Description
5.1 Operating hours	Here you can find the working hours per function
5.2 System settings	Here you can change the settings (language, wanted temp.)
5.3 Fan config	Here you can set the air flows in terms of percentage

Use + and − to select a menu. After selecting the right menu, you can enter the menu with ↵.

5.1 Operating hours

In this menu you can see how long and in what position the unit has been turning. You can also set the duration of position 3 in this menu. Note: This information is stored in the operating panel, not in the unit. A new operating panel will display no operating hours.

In this menu you can find the following details:

Display	Description
L1/2/3	Ventilation position 1/2/3
L4	Frost protection
B	Bypass open
LG	Total running hours

In this menu you can select three fields with ⏲ The possibilities for each field are described below.

LG

If you press +, when you have selected this field, you will reset all counters to zero.

L3TON

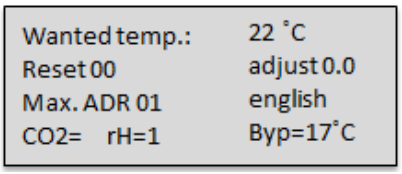
This field allows to set the duration of the timer of the unit. This setting determines how long the unit remains in the highest position after a signal from an external control such as a bathroom switch (par 3.1.3). It also determines the duration of a manual switch to a higher ventilation position, when the unit is in the automatic mode. You can change the value of this field with + and −. **Note: unlike the other values in this menu, this field is expressed in minutes.**

RHL3VZ

This field allows you to set the delay of the unit. This setting determines how long it takes for the unit to respond to an external control switch such as the bathroom. This field is set with + and with −. **Note: unlike the other values in this menu, this field in minutes.**

5.2 System settings

This is the menu where the system parameters can be set, which make the unit work properly. These settings are only for the installer, to avoid settings that can lead to damage. As you enter this menu you will see the following screen:



In this menu you can swith between the adaptable fields with ⏲. All fields are explained here below. The values in the fields can be changed with + and −.

Wanted temp.

In this field you can enter the wanted temperature. This temperature has only effect on the operation of the bypass. So you have to set the desired indoor temperature in the summer.

Reset

This field allows you to reset the operating panel to factory settings. To reset the panel, you have to enter the value 55 in this field. Then go through the menu until the wanted temp. is blinking. Then press and hold ⏲. To reset, press ↵ too and release this button to complete the process.

Adjust, correction of the temperature of the room.

To ensure that the operating panel displays the same temperature as a thermostat in the same room, it is possible to correct this value here.

English, setting of the language

In this field you can select the language of the operating panel. There are five options: German, English, French, Dutch and Polish.

CO2, the presence of a CO2-sensor

As soon as the CO2-sensor is connected and detected properly, a 1 will appear instead of a 0.

rV, holiday mode

By filling in the value 1 in this field, the unit can ventilate at its minimum when you select the holiday speed in submenu 1 Operating mode. **We strongly advise not to change this value!** Changing this value to zero means that the unit does not have a holiday speed anymore and will turn off in stead.

Byp, the outside temperature for the bypass

This is the minimal outside temperature at which the bypass can open. The default value is 17°C. **Note: if you set a too low outside temperature for the bypass, you can create condensation problems.** The bypass operates automatically under the following four conditions:

1. It must be summer (summer mode active).
2. It should be colder outside than inside.
3. It is warmer inside than the desired temperature.
4. It is warmer outside than the set outside temperature for the bypass.

5.3 Fan Config

As you enter this menu, you will see the percentage of the air flows, for both supply and exhaust air, for each position. The percentage of the holiday mode cannot be changed. The default setting is 20%, the lowest possible. If you do not change these settings, the unit provides the quantities that are shown in section 6.2. Below you can find an example of the menu:

Configuration	L=1
L1 sup = 30%	L1 exh = 30%
L2 sup = 50%	L2 exh = 50%
L3 sup = 95%	L3 exh = 95%

The following applies:

Position	Description
L1 sup	Percentage supply fan position 1
L2 sup	Percentage supply fan position 2
L3 sup	Percentage supply fan position 3
L1 exh	Percentage exhaust fan position 1
L2 exh	Percentage exhaust fan position 2
L3 exh	Percentage exhaust fan position 3

You can choose the desired field with . with + and with − you can change the percentages Then press to leave the menu and apply the new settings.

4.3 Maintenance by installer

NOTE: Always remove the plug from the wall socket before servicing the unit!

We recommend to commit the following major maintenance of the heat recovery unit every two years:

- Check the fins of the heat exchanger;
- Cleaning heat exchanger block;
- Cleaning fans;
- Cleaning drain;
- Check the speed controller and bypass system;
- Check (and if necessary repair) the electrical wiring.

In Annex II, you can keep track of the maintenance that is done. The actions needed to service the unit as stated above are explained below.

4.3.1 Check the fins of the heat exchanger

Open the front cover. Then check if the fins are not bent and/or the seams are not open.

4.3.2 Cleaning the heat exchanger core

Open the front cover and remove the exchanger from the unit. This can be done using a set of suction cups. Then remove the dust between the fins with a vacuum cleaner and brush. Wipe gently with a brush between the fins. If necessary, dip it in lukewarm sopwater the heat and rinse them with clean lukewarm water. As you do, do not use harsh or dissolving cleaning products. Then remove the water from the exchanger, by lifting it on the smooth exterior and shaking it gently. Finally, replace the six foam seals (article reference 0450153) at the corners of the exchanger and rub them abundantly with vaseline. Then place the exchanger back with a metal plate to avoid damage to the seals at the moment you slide the exchanger in the unit (see picture).

4.3.3 Cleaning the fans

Open the front cover. Slide the fan towards you. Do not remove it, otherwise you will disconnect the wiring. Clean the fan using a vacuum cleaner with a brush. **Be careful not to damage or move the weights on the fan blades!** Then slide the fan back in again.

4.3.4 Cleaning the drain

Remove the duct from the condensate drain and clean it. Make sure you put the siphon in place again according to the requirements specified in section 4.1.2. To avoid dehydration you can poor a little bit olive oil into the condensate drain.

4.3.5 Check the speed controller and bypass system

Please note that this control should be done when the unit is working. Stay away from moving parts and watch out for power lines!

To test the speed controller, turn the unit in the three positions and check if the unit accelerates and decelerates properly. To verify that the bypass control is working, you must open the front cover and then warm the sensor 'T2 extraction from habitat' by holding it in your hand. The temperature 'T3 supply from outside' must be at least 17°C (factory setting) and not higher than T2. The bypass will respond after one minute.

4.3.6 Check (and if necessary repair) the electrical wiring.

Check the wiring and make sure that no wire is touching a fan. If a cable is damaged, please contact Ventilair Group Nederland to find a solution.

V Errors

5.1 Errors intelligent 3-position switch with LED indicator

On the 3-position switch, errors are indicated by a flashing light behind ⚠. Which error has occurred depends on the flash. Here below, you can see what action you should take to resolve the error. This manual is for both users and installers, so this table is too. The end user can see in the column 'action' the appropriate action to do. The installer can see in the column scheme , where he can find the correct scheme to resolve the problem. **These solutions schemes are only intended for installers.** The message is displayed until the cause has been corrected.

Some remarks only intended for the installer; do not effectuate these if you are the end user:
If only the supply fan stopped but the operating panel does not display an error, it is possible that it is the frost protection. This does not appear in the 3-position switch. **Please note that the next control should be done when the unit is working. Stay away from moving parts and watch out for power lines!** To check whether this is indeed the case, you need to warm temperature sensor T3 (see section 6.4 for location) above freezing point by holding it in your hand. If there is no error, the supply fan will start again. If an error does not match the described characteristics, follow the scheme 5.3.1.

Description Signal	Flash frequency	Error	Action enduser	Scheme
Constant burning	————————	Change/check filter	Do it yourself	Section 3.2
Constant flashing	- - - - - - - - - - - -	Error supply fan	Call installer	5.3.2
2x Flash – Pause	-- -- --	Error extract fan	Call installer	5.3.2
3x Flash – Pause	--- --- ---	Error sensor temp.	Call installer	5.3.3
4x Flash – Pause	---- ----	Error control board	Call installer	5.3.1
5x Flash – Pause	----- -----	Error cables control panel/ Error data transfer	Call installer	5.3.4
3x Flash – Pause – 2x Flash	--- -- --- --	Error preheater	Call installer	-

5.2 Errors deluxe digital operating panel

On the Deluxe digital operating, errors are noted by a blinking light under .
The error is shown on the screen with text. The following table shows what action you should take to resolve the error. This manual is for both users and installers, so this table is too. The end user can see in the column 'action' the appropriate action to do. The installer can see in the column ' scheme', where he can find the correct scheme to resolve the problem. **These solutions schemes are only intended for installers.** The message is displayed until the cause has been corrected.

Some remarks only intended for the installer, do not effectuate these if you are the end user:
If an error does not match the described characte-ristics, follow the scheme 5.3.1.
Above each error message, you will see ' CPU adres adr1'. Deze regel geeft aan welk apparaat een storing heeft gemeld. Dit wijkt enkel af als u meerdere toestellen heeft aangesloten op één bediening. This line indicates which unit has reported an error. This differs only on when you have multiple units connected to one control panel.

Description error on screen	Storingsnr.	Handeling	Schema
Frost protection	-	None	Info sect. 3.1.2
Exchange filter	-	Do it yourself	Section 3.2
Supply fan stopped	10	Call installer	5.3.2
Extract fan stopped	11	Call installer	5.3.2
Open line! T1/2/3/4 sensor	-	Call installer	5.3.3
Short circuit T1/2/3/4 sensor	-	Call installer	5.3.3
Error data transfer	8	Call installer	5.3.4

5.3 Solution schemes for errors

5.3.1 General error

This scheme is intended only for the installer.

Maintenance by the end user is not only dangerous but also has a negative effect on the warranty.

The unit no longer functions properly or the error is not listed in the table.

Reset the unit by pulling out the plug during 10 seconds and then place it back again

Wait 15 minutes. Does the unit work?

- Yes → The error is (temporarily) fixed, keep an eye out for new errors
- No → Open the cover of the control board on top of the unit

Is there 230V on the power entry of the control board? (N & L1)

- Yes → Replace the control panel or control board
- No → Pull the plug out of the socket
  - Replace the fuse at the control board
  - Put the plug back in the socket
  - If the fuse breaks again, pull the plug out of the socket and check all internal wiring
  - Replace the damaged wiring
  - Put the plug back in the socket

5.3.2 Fan error

This scheme is intended only for the installer.

Maintenance by the end user is not only dangerous but also has a negative effect on the warranty.

Extract or supply fan stopped

Pull the plug out of the socket

Open the front lid of the unit

Put the plug back in the socket

Are both fans turning?

Yes

No

Open the cover of the control board

Measure (within 1 minute after putting the plug back in) if there is a voltage of 230V on the poles K1 (see scheme section 6.3). Is the voltage correct?

No

No

Measure (within 1 minute after putting the plug back in) if there is a voltage between 0 and 10 volts on the poles 0 and U1 or U2 as shown in section 6.5. Is the voltage correct?

Ja

No

Pull the plug out of the socket, replace the cables of the fans and put the plug back in the socket

If this does not work or when this is not possible, replace the complete fan set and put the plug back in the socket

Pull the plug out of the socket

Replace the control board and put the plug back in the socket

Pull the plug out of the socket

Replace the control board and put the plug back in the socket

5.3.3 Sensor error

This scheme is intended only for the installer.

Maintenance by the end user is not only dangerous but also has a negative effect on the warranty.

Open line or short circuit on sensor (T1, T2, T3, T4)

To determine which sensor is creating an error, you can connect a digital control panel deluxe temporarily to units with a 3-position switch

Pull the plug out of the socket

Open the front lid of the unit and the cover of the control board

Check the cable of the relevant sensor for an open line error

Is the cable broken?

Yes

Place a new sensor or repair the cable and put the plug back in the socket

No

Exchange temporarily the wires of the sensor with those of another sensor on the control board and restart the unit

Does the error indicate another sensor now?

Yes

Pull the plug out of the socket

Place a new sensor in the right place and put the plug back in the socket

No

Pull the plug out of the socket

Replace the control board and put the plug back in the socket

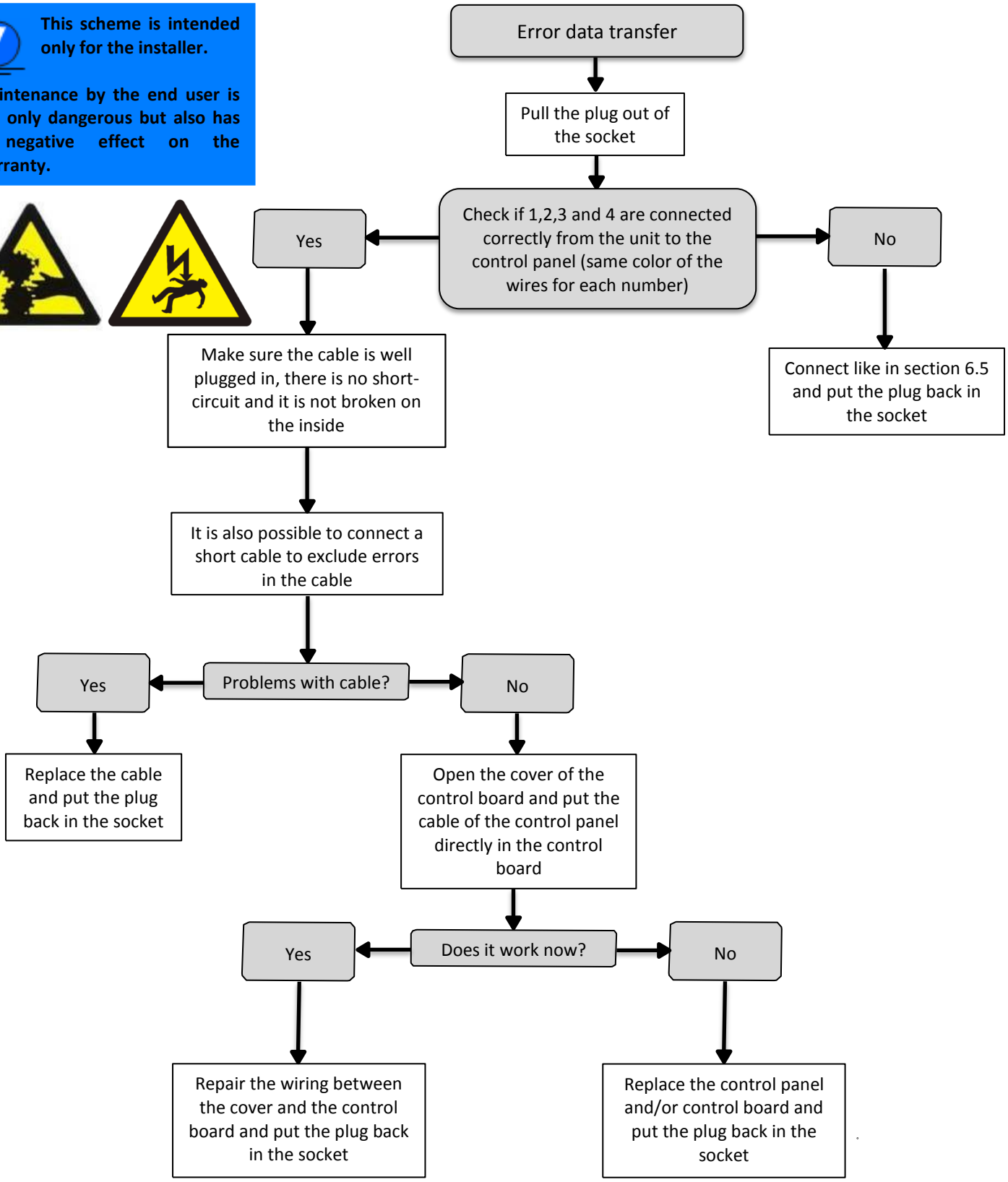
Optionally, you can measure the resistance of the sensor. It should comply with the following table:

Temp. [°C]	R [Ω]
-20	684
-10	747
0	815
10	886
20	961
25	1000
30	1040

5.3.4 Error cabling/ data transfer

This scheme is intended only for the installer.

Maintenance by the end user is not only dangerous but also has a negative effect on the warranty.


Error data transfer
Pull the plug out of the socket
Check if 1,2,3 and 4 are connected correctly from the unit to the control panel (same color of the wires for each number)
Yes
No
Make sure the cable is well plugged in, there is no short-circuit and it is not broken on the inside
Connect like in section 6.5 and put the plug back in the socket
It is also possible to connect a short cable to exclude errors in the cable
Problems with cable?
Yes
No
Replace the cable and put the plug back in the socket
Open the cover of the control board and put the cable of the control panel directly in the control board
Does it work now?
Yes
No
Repair the wiring between the cover and the control board and put the plug back in the socket
Replace the control panel and/or control board and put the plug back in the socket

VI Specifications HRUC-E

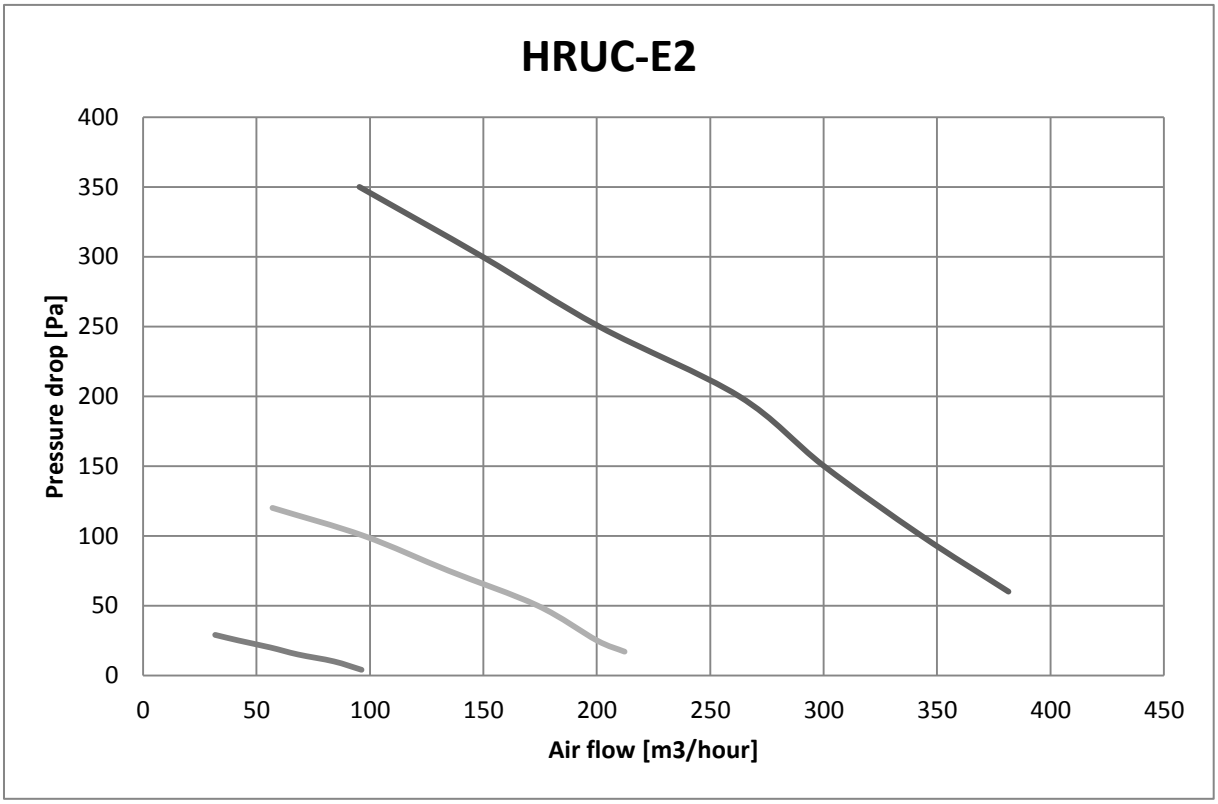
6.1 Technical specifications

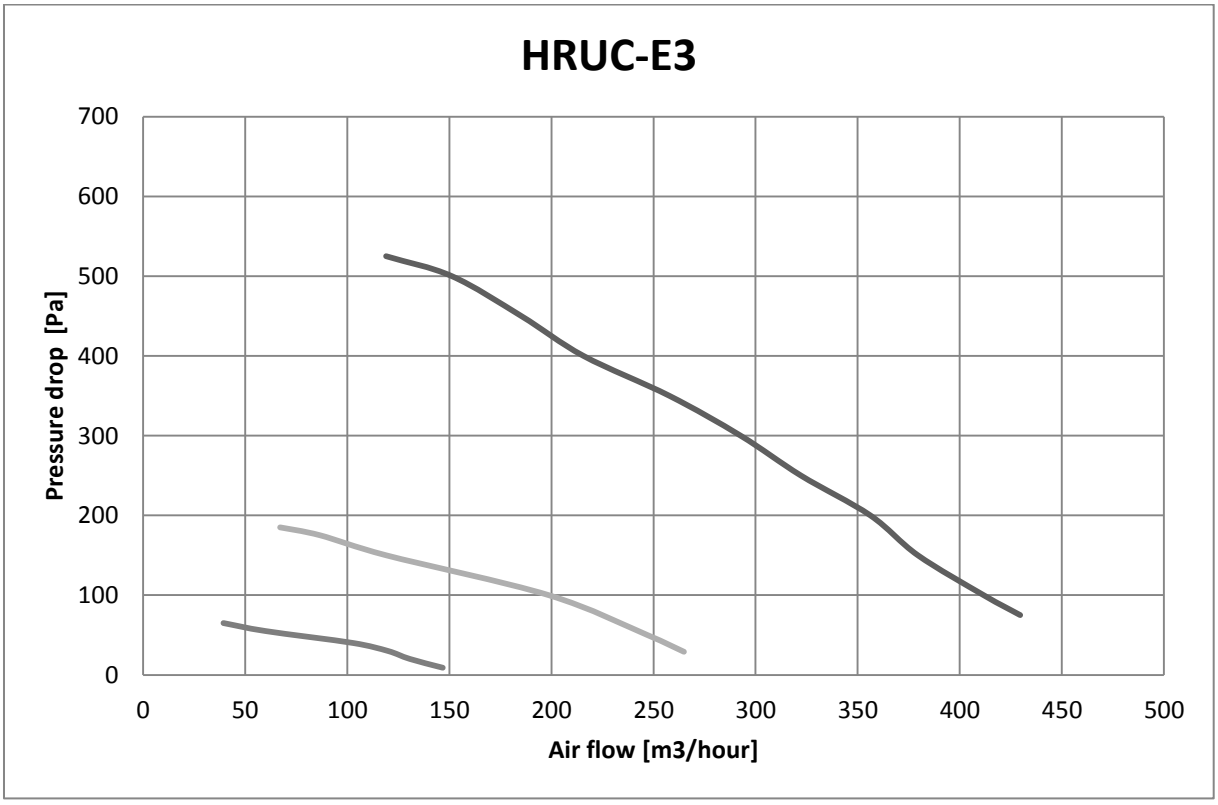
	HRUC-E2	HRUC-E3
Air specifications		
Air flow	300m³/hour (@150Pa)	380m³/hour (@150Pa)
Filter classification	G4 (optional F5)	G4 (optional F5)
Bypass	100%	100%
Mechanical specifications		
Dimensions(hxwxd)	710x842x506mm	710x842x506mm
Weight	55kg	55kg
Connections	Ø180mm 4x top, 2x bottom	Ø180mm 4x top, 2x bottom
Heat exchanger	Aluminium, counterflow	Aluminium, counterflow
Electrical specifications		
Electrical connection	230V AC +/- 10%; 50Hz	230V AC +/- 10%; 50Hz
Fans	EC-motor (EBM)	EC-motor (EBM)
Power input - position 1 - position 2 - position 3	 14W 28W 98W	 18W 36W 129W
Max. current	0,86A	1,13A
Cos Phi	0,49	0,49
Fuse	2A slow	2A slow
Control	3 – position switch and deluxe digital control panel	
Optional control	Bathroom switch	

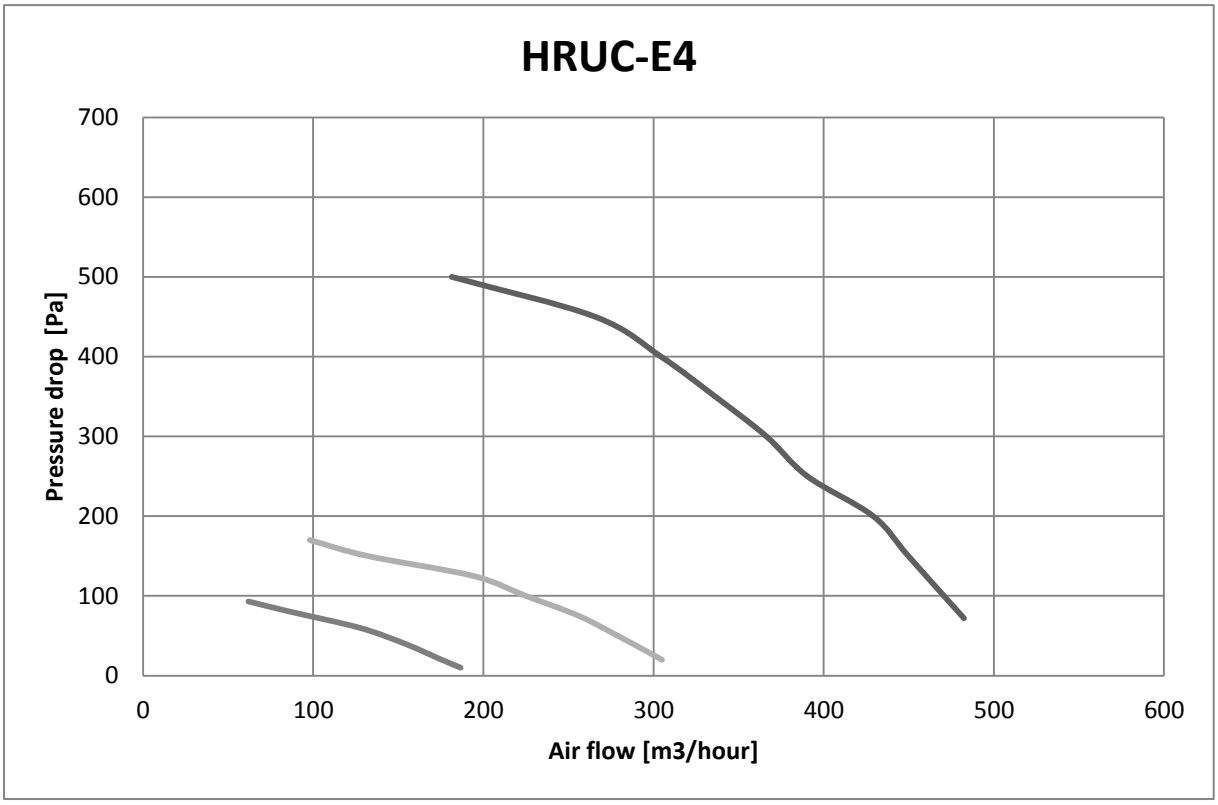
	HRUC–E4	HRUC–E5
Air specifications		
Air flow	450m³/hour (@150Pa)	520³/hour (@150Pa)
Filter classification	G4 (optional F5)	G4 (optional F5)
Bypass	100%	100%
Mechanical specifications		
Dimensions(hxwxd)	710x842x506mm	710x842x506mm
Weight	55kg	55kg
Connections	Ø180mm 4x top, 2x bottom	Ø180mm 4x top, 2x bottom
Heat exchanger	Aluminium, counterflow	Aluminium, counterflow
Electrical specifications		
Electrical connection	230V AC +/- 10%; 50Hz	230V AC +/- 10%; 50Hz
Fans	EC-motor (EBM)	EC-motor (EBM)
Power input - position 1 - position 2 - position 3	 12W 38W 172W	 14W 47W 225W
Max. current	1,35A	1,76A
Cos Phi	0,55	0,55
Fuse	2A slow	2A slow
Control	3 – position switch and deluxe digital control panel	
Optional control	Bathroom switch	

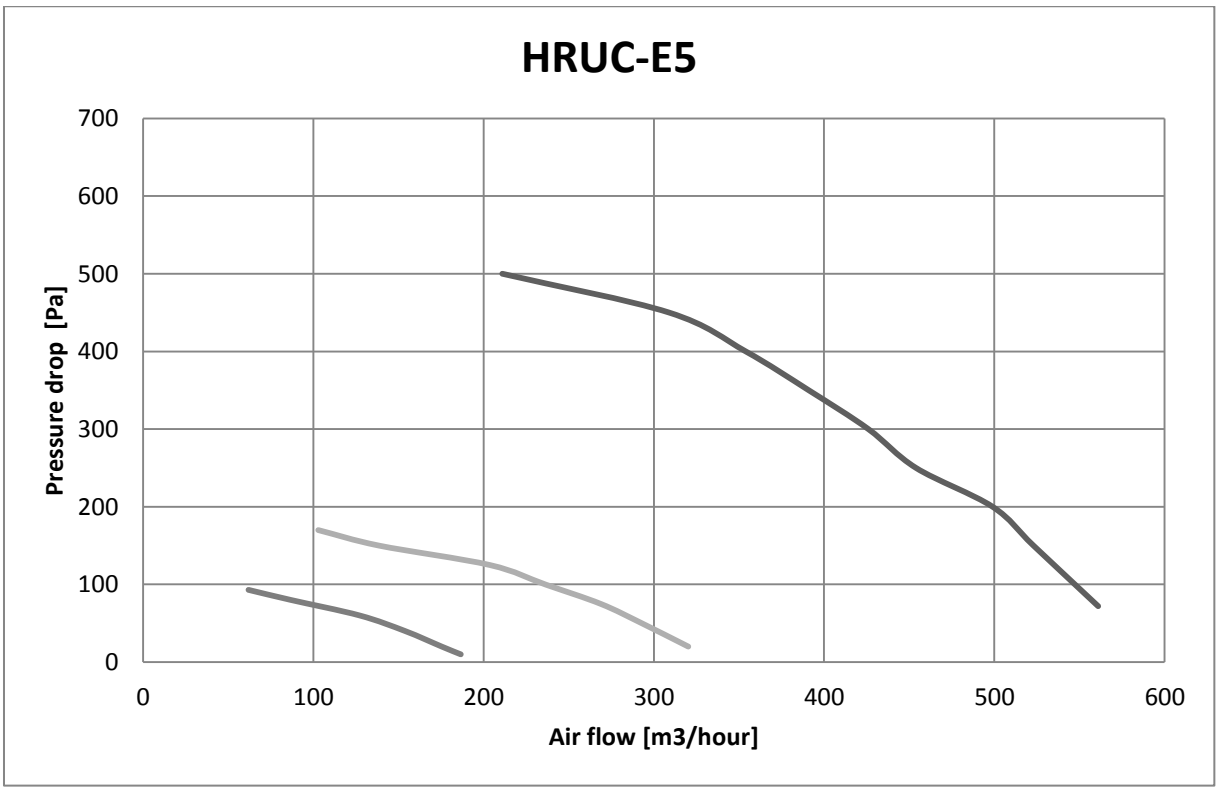
6.2 Air flows

The graphs below show the air flow each of the HRUC-E units can move plotted against the external resistance.






HRUC-E4
700
600
500
400
300
200
100
0
Pressure drop [Pa]
0
100
200
300
400
500
600
Air flow [m3/hour]

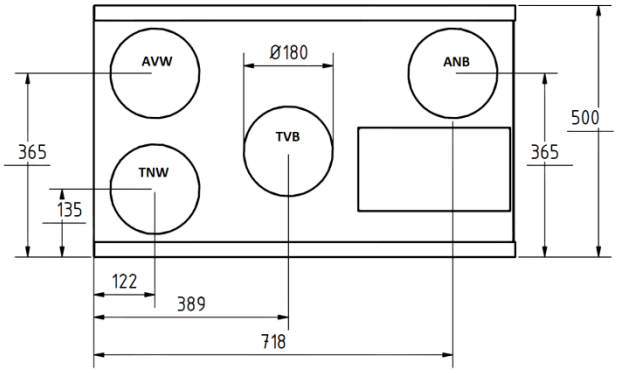

HRUC-E5
700
600
500
400
300
200
100
0
Pressure drop [Pa]
0
100
200
300
400
500
600
Air flow [m3/hour]

6.3 Dimensions

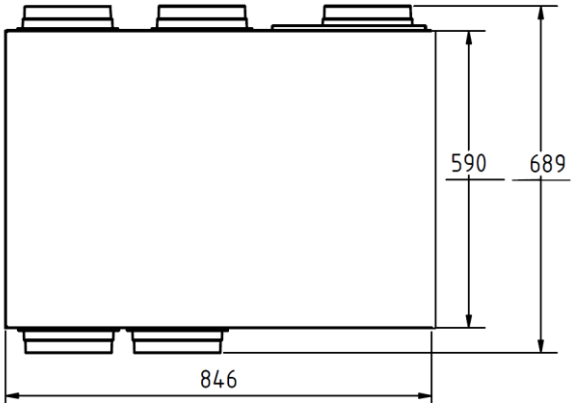
Here are the dimensional drawings of the HRUC-E2, E3, E4 and E5 for the recommended left installation. This way the unit is easier to maintain. You have to mirror the image for the right installation.

ANB = Projection of the polluted air outside
TVB = Supply of fresh air from outside
TNW = Supply of fresh air to the habitat
AVW = Extraction from the air out of the habitat

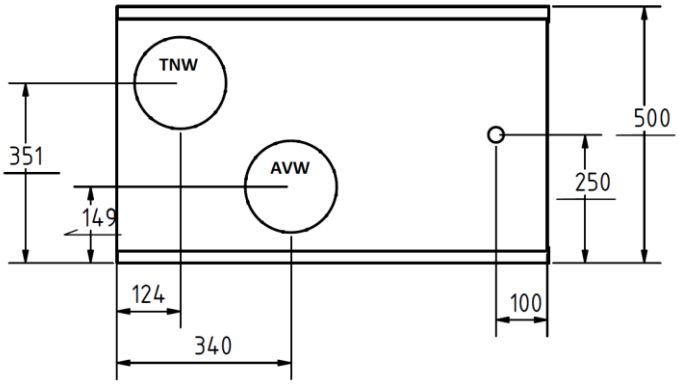
Top:



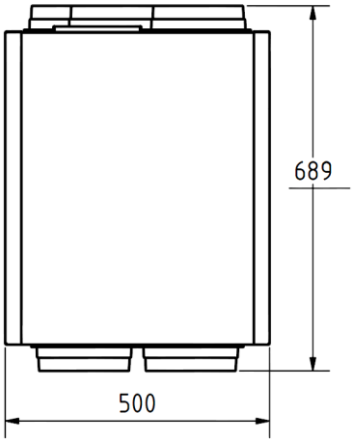
Front:



Bottom:

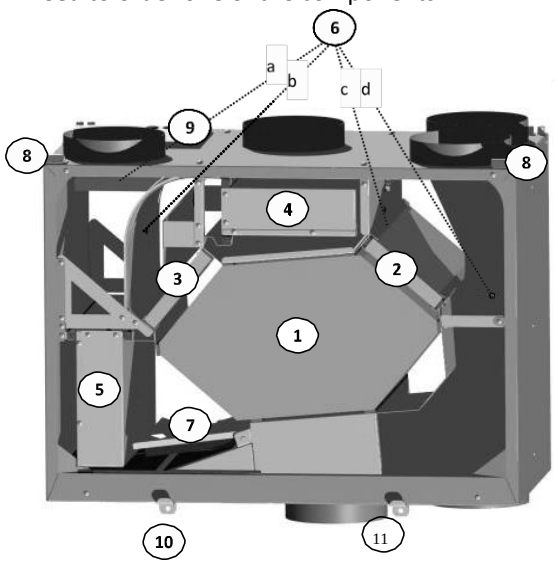


Side:



6.4 List of components

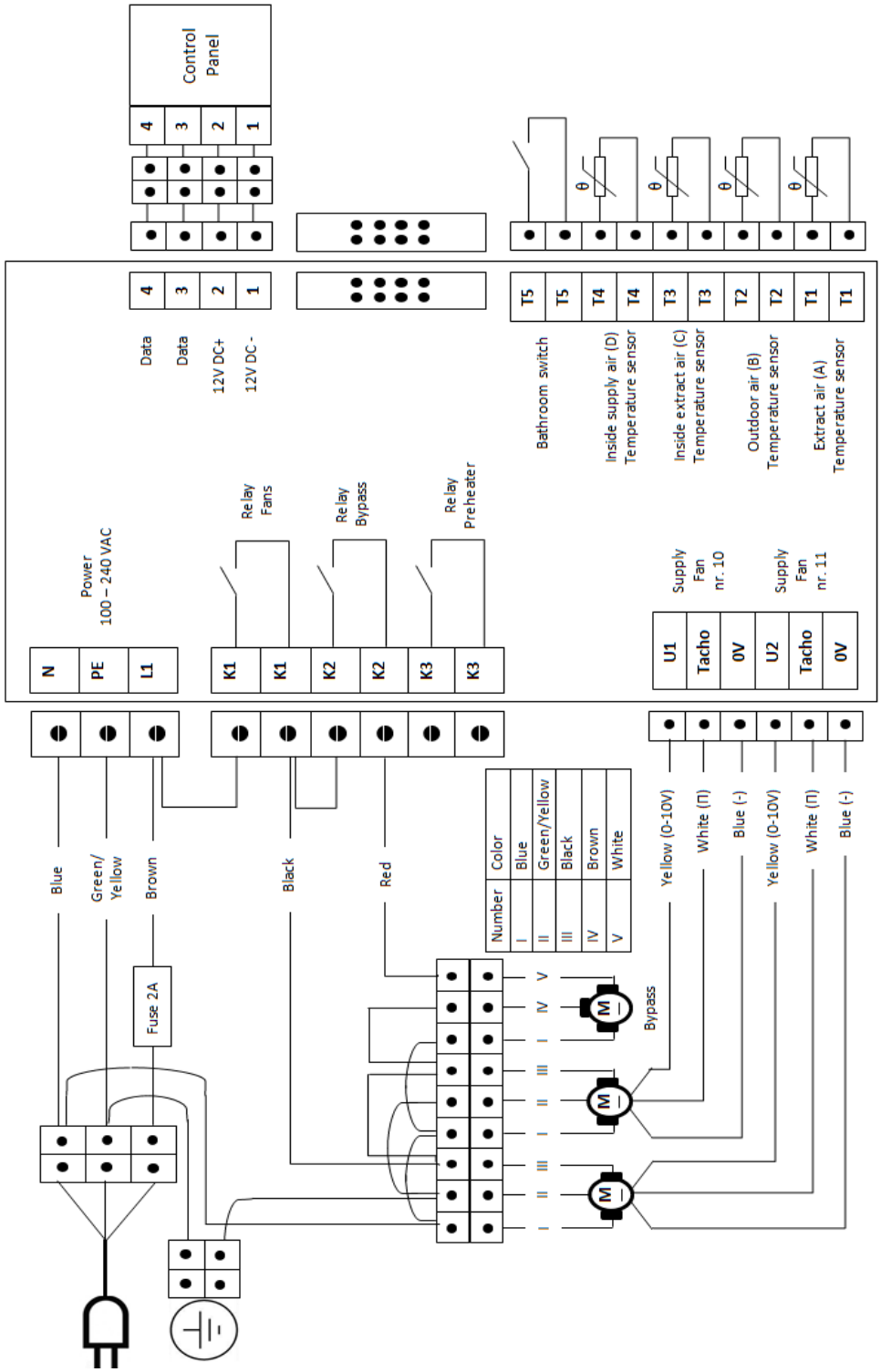
Here is a list of components of the HRUC-E. On the next page you can find the article references, if you need to order one of the components.



1. Heat exchanger
2. Filter exhaust air
3. Filter supply air
4. Supply fan
5. Exhaust fan
6. Temperature sensors
   a. Temp. sensor projection outside T4
   b. Temp. sensor supply from outside T3
   c. Temp. sensor extraction habitat T2
   d. Temp. sensor supply to habitat T1
7. Bypass
8. Mounting bracket
9. Electrical connections
10. Condensate drain (Ø17mm)
11. Extra spigot for bottom connection

Number	Component	Article reference
1	Heat exchanger	0820030
2+3	Filter set G4	0130003
2+3	Filter set F5 (pollen filter)	0130004
4+5	Fan with housing	On demand
6	Temperature sensor	1146050
7	Bypass motor with cable	0320092
9	Controller HRUC-E	On demand
10	Tailpiece for condensate drain	1230684
11	Extra spigot for bottom connection	1440071
-	Deluxe digital control panel	2070025
-	3- position switch with LED	2070026

6.5 Wiring diagram HRUC-E



Annex I MAINTENANCE BY USER

This annex provides you, as a user, information about the maintenance of your unit. To make it complete, you can also find the cleaning instruction for the valves. Although this is not part of the HRUC-E, a clean valve provides an optimum air flow. After the instruction, you can find the maintenance instructions for the filters of your HRUC-E.

Cleaning the valves

The supply and exhaust valves in your home should be cleaned (at least) twice a year.

Note: Do not change the settings of the valves! These settings have been carefully set by the installer and any change affects the functioning of the ventilation system.

The cleaning is done as follows:

- Remove the valve from the ceiling or wall.
- Clean the valve in a solution of warm water and soap.
- Rinse the valve and then dry it thoroughly.
- Place the valve back at the same place and at the same position.

Cleaning/changing the filters

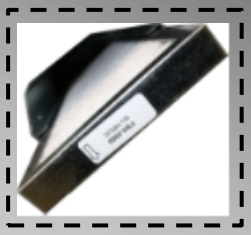
Note: Follow the steps in Section 3.2 or the scheme on the next page carefully when you clean or change The filters. If you effectuate the maintenance in another way, the warranty will be no longer valid.

Advice for checking/cleaning/changing the filters:

- Check the filters before starting up the unit.
- Change the filters every month or two in the first six months.
- After that, change them every three months (as the filter timer automatically specifies).
- You can keep track of the dates of changing the filters on page 32.

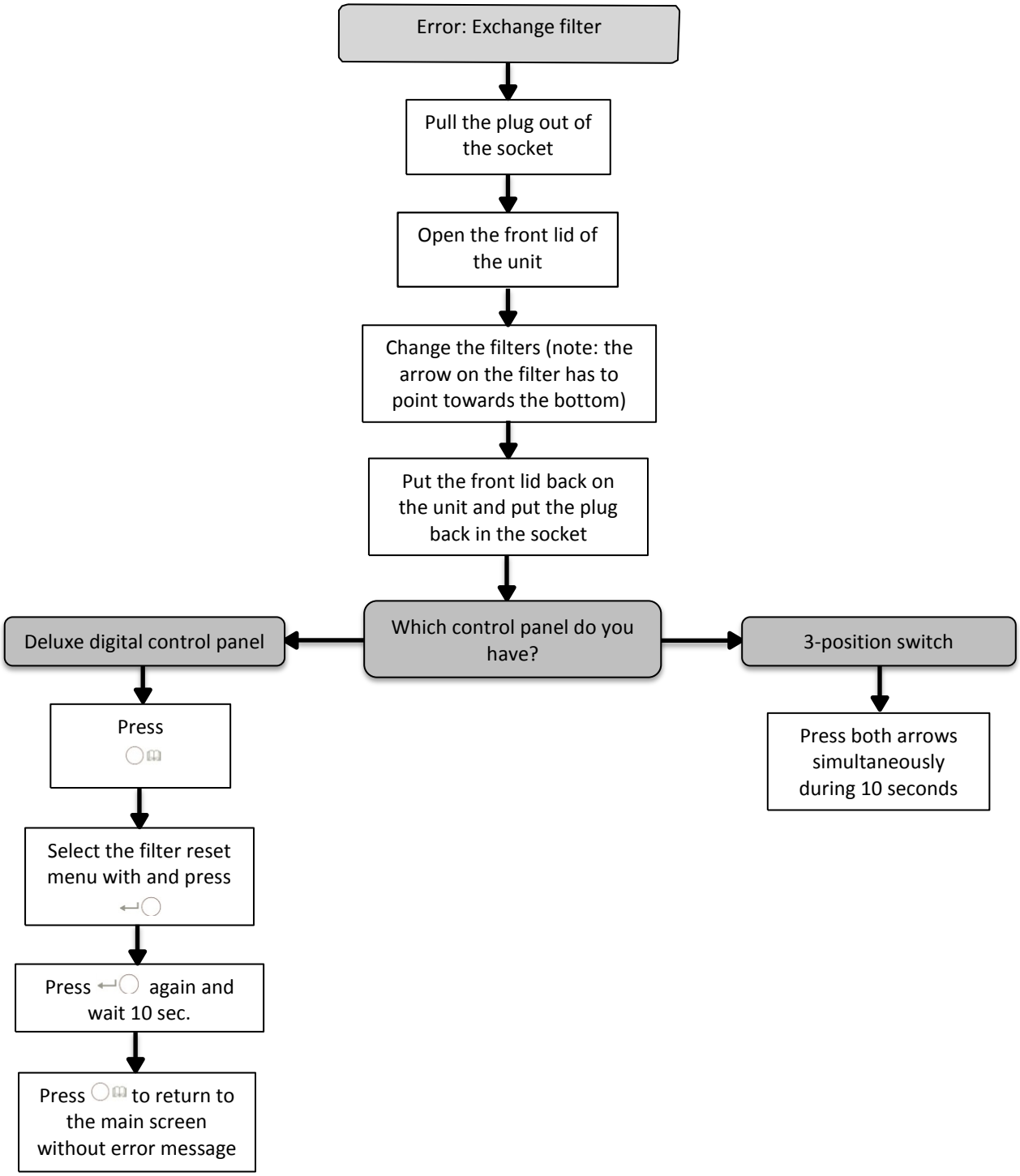
Get one filter set for your HRUC-E for free!

It is very important to regularly check your filters for dust accumulation, rinse the them/or change them. To make this process easier for you here is a one time offer for a free G4 filter set. The only thing you have to do is send an email to NL@ventilairgroup.com containing the follow information:



Subject of your email: Free filter set HRUC-E

Include in your email:
- The Serial Nr. of your unit (see sticker on the side of the unit).
- The details of the installer from whom you've purchased the unit.
- Your name and mailing adress, so we can send the filters.


Error: Exchange filter
Pull the plug out of the socket
Open the front lid of the unit
Change the filters (note: the arrow on the filter has to point towards the bottom)
Put the front lid back on the unit and put the plug back in the socket
Which control panel do you have?
Deluxe digital control panel
3-position switch
Press
Select the filter reset menu with and press
Press again and wait 10 sec.
Press to return to the main screen without error message
Press both arrows simultaneously during 10 seconds

Annex II OVERVIEW MAINTENANCE

Please fill in here below the maintenance activities effectuated on the unit to keep the overview. The first table shows what maintenance should be done en what maintenance is performed in the past. In the second table, you can indicate when you changed the filters. **Note: If there is major maintenance to be done, you have to observe the requirements of section 2.6, 3.2 and 4.3 at all times, otherwise your warranty will no longer be valid!**

The maintenance actions for the installer consist of the following parts:

1. Changing filters
2. Straighten the fins of the heat exchanger
3. Cleaning the heat exchanger block
4. Cleaning the fans
5. Cleaning the condensate drain
6. Checking the speed and bypass control
7. Repairing damage to electrical wiring
8. Cleaning duct system

Maintenance task	Installation	+2year	+4year	+6year	+8year	+10year	+12year	+14year	+16year	+18year	+20year
1.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
2.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
3.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
4.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
5.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
6.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
7.	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑	❑
8.				❑			❑			❑	

Changing filters

Date	Date	Date	Date	Date	Date
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....

Place your information or stamp here below at each inspection and service:

Inspection and service after 2 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 4 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 6 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 8 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 10 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 12 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 14 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 16 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 18 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Inspection and service after 20 year

Working hours unit: .....
Date: .....

Installer name: .....
Address: .....
.....
Phone number: .....
Remarks: .....

Your HRUC-E installer

Date: .....

Name installer: .....
Adress: .....
.....
Phone number: .....
Remarks: .....
.....

Ventilair Group Nederland B.V.
Kerver 16
5521 DB Eersel
The Netherlands
Tel.: +31 (0) 497 - 36 00 31
Fax: +31 (0) 497 - 33 08 93
www.ventilairgroup.com
NL@ventilairgroup.com